WHAT YOU NEED TO KNOW ABOUT CO

WHAT IS CO?

CO is an invisible, odorless, tasteless gas produced when fossil fuels do not burn completely, or are exposed to heat (usually fire). Electrical appliances typically do not produce CO.

These fuels include: Wood, coal, charcoal, oil, natural gas, gasoline, kerosene, and propane.

Common appliances are often sources of CO. If they are not properly maintained, are improperly ventilated, or malfunction, CO levels can rise quickly. CO is a real danger now that homes are more energy efficient. "Air-tight" homes with added insulation, sealed windows, and other weatherproofing can "trap" CO inside.

SYMPTOMS OF CO POISONING

These symptoms are related to CO POISONING and should be discussed with ALL household members.

Mild Exposure: Slight headache, nausea, vomiting, fatigue ("flu-like" symptoms).

Medium Exposure: Throbbing headache, drowsiness, confusion, fast heart rate.

Extreme Exposure: Convulsions, unconsciousness, heart and lung failure. Exposure to Carbon Monoxide can cause brain damage, death.

⚠WARNING!

Some individuals are more sensitive to CO than others, including people with cardiac or respiratory problems, infants, unborn babies, pregnant mothers, or elderly people can be more quickly and severely affected by CO. Members of sensitive populations should consult their doctors for advice on taking additional precautions.

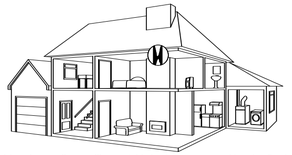
FINDING THE SOURCE OF CO AFTER AN ALARM

Carbon monoxide is an odorless, invisible gas, which often makes it difficult to locate the source of CO after an alarm. These are a few of the factors that can make it difficult to locate sources of CO:

- House well ventilated before the investigator arrives.
- Problem caused by "backdrafting."
- Transient CO problem caused by special circumstances.

Because CO may dissipate by the time an investigator arrives, it may be difficult to locate the source of CO. **First Alert®/BRK Brands Europe Ltd. shall not be obligated to pay for any carbon monoxide investigation or service call.**

POTENTIAL SOURCES OF CO IN THE HOME



Fuel-burning appliances like: portable heater, gas or wood burning fireplace, gas kitchen range or cooktop, gas clothes dryer.

Damaged or insufficient venting: corroded or disconnected water heater vent pipe, leaking chimney pipe or flue, or cracked heat exchanger, blocked or clogged chimney opening.

Improper use of appliance/device: operating a barbecue grill or vehicle in an enclosed area (like a garage or screened porch).

Transient CO Problems: "transient" or on-again-off-again CO problems can be caused by outdoor conditions and other special circumstances.

The following conditions can result in transient CO situations:

1. Excessive spillage or reverse venting of fuel appliances caused by outdoor conditions such as:
   - Wind direction and/or velocity, including high, gusty winds. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
   - Negative pressure differential resulting from the use of exhaust fans.
   - Several appliances running at the same time competing for limited fresh air.
   - Vent pipe connections vibrating loose from clothes dryers, boilers, or water heaters.
   - Obstructions in or unconventional vent pipe designs which can amplify the above situations.
2. Extended operation of unvented fuel burning devices (range, oven, fireplace).
3. Temperature inversions, which can trap exhaust close to the ground.
4. Car idling in an open or closed attached garage, or near a home.

These conditions are dangerous because they can trap exhaust in your home. Since these conditions can come and go, they are also hard to recreate during a CO investigation.

HOW CAN I PROTECT MY FAMILY FROM CO POISONING?

A CO Alarm is an excellent means of protection. It monitors the air and sounds a loud alarm before Carbon Monoxide levels become threatening for average, healthy adults.

A CO Alarm is not a substitute for proper maintenance of home appliances.

To help prevent CO problems and reduce the risk of CO poisoning:

- Clean chimneys and flues yearly. Keep them free of debris, leaves, and nests for proper air flow. Also, have a professional check for rust and corrosion, cracks, or separations. These conditions can prevent proper air movement and cause backdrafting. Never "cap" or cover a chimney in any way that would block air flow.
- Test and maintain all fuel-burning equipment annually. In the case of gas appliances, this must be a CORGI registered installer. Many local gas or oil companies and heating companies offer appliance maintenance and inspection contracts. When service technicians/engineers come to service your heating and cooking appliances, ensure the following checks are carried out if you are unable to do them yourself.
- Make regular visual inspections of all fuel-burning appliances. Check appliances for excessive rust and scaling. Also check the flame on the burner and pilot lights. The flame should be blue. A yellow flame means fuel is not being burned completely and CO may be present. Keep the blower door on the boiler closed. Use vents or fans when they are available on all fuel-burning appliances. Make sure appliances are vented to the outside. Do not grill or barbecue indoors, or in garages or on screen porches.
- Check for exhaust backflow from CO sources. Check the draft hood on an operating boiler for a backdraft. Look for cracks on boiler heat exchangers.
- Check the house or garage on the other side of shared wall.
- Keep windows and doors open slightly. If you suspect that CO is escaping into your home, open a window or a door. Opening windows and doors can significantly decrease CO levels.

In addition, familiarize yourself with all enclosed materials. Read this manual in its entirety, and make sure you understand what to do if your CO Alarm sounds.

REGULATORY INFORMATION FOR SMOKE/CO ALARMS

REGULATORY INFORMATION FOR CO ALARMS

WHAT LEVELS OF CO CAUSE AN ALARM?

Underwriters Laboratories Inc. Standard UL2034 requires residential CO Alarms to sound when exposed to levels of CO and exposure times as described below. They are measured in parts per million (ppm) of CO over time (in minutes).

UL2034 Required Alarm Points*:

- If the alarm is exposed to 400 ppm of CO, IT MUST ALARM BETWEEN 4 and 15 MINUTES.
- If the alarm is exposed to 150 ppm of CO, IT MUST ALARM BETWEEN 10 and 50 MINUTES.
- If the alarm is exposed to 70 ppm if CO, IT MUST ALARM BETWEEN 60 and 240 MINUTES.

* Approximately 10% COHb exposure at levels of 10% to 95% Relative Humidity (RH).

The unit is designed not to alarm when exposed to a constant level of 30 ppm for 30 days.

IMPORTANT!

CO Alarms are designed to alarm before there is an immediate life threat. Since you cannot see or smell CO, never assume it's not present.

- An exposure to 100 ppm of CO for 20 minutes may not affect average, healthy adults, but after 4 hours the same level may cause headaches.
- An exposure to 400 ppm of CO may cause headaches in average, healthy adults after 35 minutes, but can cause death after 2 hours.

IMPORTANT!

This CO Alarm measures exposure to CO over time. It alarms if CO levels are extremely high in a short period of time, or if CO levels reach a certain minimum over a long period of time. The CO Alarm generally sounds an alarm before the onset of symptoms in average, healthy adults. Why is this important? Because you need to be warned of a potential CO problem while you can still react in time. In many reported cases of CO exposure, victims may be aware that they are not feeling well, but become disoriented and can no longer react well enough to exit the building or get help. Also, young children and pets may be the first affected. The average healthy adult might not feel any symptoms when the CO Alarm sounds. However, people with cardiac or respiratory problems, infants, unborn babies, pregnant mothers, or elderly people can be more quickly and severely affected by CO. If you experience even mild symptoms of CO poisoning, consult your doctor immediately!

Continued...

Standards: Underwriters Laboratories Inc. Single and Multiple Station carbon monoxide alarms UL2034.

According to Underwriters Laboratories Inc. UL2034, Section 1-1.2: "Carbon monoxide alarms covered by these requirements are intended to respond to the presence of carbon monoxide from sources such as, but not limited to, exhaust from internal-combustion engines, abnormal operation of fuel-fired appliances, and fireplaces. CO Alarms are intended to alarm at carbon monoxide levels below those that could cause a loss of ability to react to the dangers of Carbon Monoxide exposure." This CO Alarm monitors the air at the Alarm, and is designed to alarm before CO levels become life threatening. This allows you precious time to leave the house and correct the problem. This is only possible if Alarms are located, installed, and maintained as described in this manual.

Gas Detection at Typical Temperature and Humidity Ranges: The CO Alarm is not formulated to detect CO levels below 30 ppm typically. UL tested for false alarm resistance to Methane (500 ppm), Butane (300 ppm), Heptane (500 ppm), Ethyl Acetate (200 ppm), Isopropyl Alcohol (200 ppm) and Carbon Dioxide (5000 ppm). Values measure gas and vapor concentrations in parts per million.

Audible Alarm: 85 dB minimum at 3 metres (10 feet).

REGULATORY INFORMATION FOR SMOKE ALARMS

BRITISH STANDARDS (BSI) RECOMMENDATIONS

BS 5839 Part 6 (Code of practice for the design and installation of fire detection and alarm systems in dwellings):

Smoke Alarms shall be installed in all circulation spaces (normally hallways and staircases) that form part of escape routes, one on every level, and in all rooms and areas that present a high fire risk. Additionally, Smoke Alarms should also be installed between the sleeping area(s) and the most likely sources of fire (living room and kitchen).

If there are long hallways, corridors, or protected rooms or areas over 7.5 metres (25 feet) from the nearest unit, the installation of additional Smoke Alarms may be necessary. Roof voids containing stored combustibles or sources of ignition may also warrant the installation of additional Smoke Alarms.

The installation of Smoke Alarms in kitchens, toilets, bathrooms or shower rooms is not recommended, as these locations occasionally experience conditions that can result in improper operation.

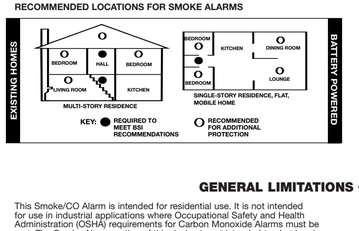
More specifically, install Smoke Alarms:

- Where temperatures normally remain between 4˚C (40˚F) and 38˚C (100˚F).
- On every level of your home, including finished attics.
- Inside every bedroom, especially if people sleep with doors closed.
- In the hall near every sleeping area. If your home has multiple sleeping areas, install a unit in each. If a hall is over 7.5 metres (25 feet) long, install an alarm at each end.
- At the top of the first-to-second floor and subsequent floor stairways, and at the bottom of the ground floor stairway.

IMPORTANT!

Specific requirements for Smoke Alarm installation may vary from region to region. Check with your local Fire Brigade and Building Control for current requirements in your area.

RECOMMENDED LOCATIONS FOR SMOKE ALARMS



GENERAL LIMITATIONS OF SMOKE/CO ALARMS

This Smoke/CO Alarm is intended for residential use. It is not intended for use in industrial applications where Occupational Safety and Health Administration (OSHA) requirements for Carbon Monoxide Alarms must be met. The Smoke Alarm portion of this device is not intended to alert hearing impaired residents. Special purpose Smoke Alarms should be installed for hearing impaired residents (CO Alarms are not yet available for the hearing impaired).

Smoke/CO Alarms may not waken all individuals. Practice the escape plan at least twice a year, making sure that everyone is involved – from kids to grandparents. Allow children to master fire escape planning and practice before holding a fire drill at night when they are sleeping. If children or others do not readily waken to the sound of the Smoke/CO Alarm, or if there are infants or family members with mobility limitations, make sure that someone is assigned to assist them in fire drill and in the event of an emergency. It is recommended that you hold a fire drill while family members are sleeping in order to determine their response to the sound of the Smoke/CO Alarm while sleeping and to determine whether they may need assistance in the event of an emergency.

Smoke/CO Alarms cannot work without power. Battery operated units cannot work if the batteries are missing, disconnected or dead, if the wrong type of batteries are used, or if the batteries are not installed correctly. AC units cannot work if the AC power is cut off for any reason (open fuse or circuit breaker, failure along an electrical main or at a power station, electrical fire that burns the electrical wires, etc.). If you are concerned about the limitations of battery or AC power, install both types of units.

Smoke/CO Alarms cannot sense smoke or CO that does not reach the sensors. Smoke or CO from fires in chimneys or walls, on roofs, or on the other side of closed doors may not reach the sensing chamber and set off the alarm. That is why one unit should be installed inside each bedroom or sleeping area—especially if bedroom or sleeping area doors are closed at night—and in the hallway between them.

Smoke/CO Alarms may not detect smoke or CO on another floor or area of the home. For example, a stand-alone unit on the second floor may not detect smoke from a ground floor fire until the fire spreads. This may not give you enough time to escape safely. That is why recommended minimum protection is at least one unit in all circulation spaces (normally hallways and staircases) that form part of escape routes, on every level, and in all rooms and areas that present a high risk. Even with a unit on every floor, stand-alone units may not provide as much protection as interconnected units, especially if the fire starts in a remote area. Some safety experts recommend installing interconnected mains (AC) powered units with battery (DC) back-up (see "About Smoke Alarms") or professional fire detection systems, so if one unit senses smoke or CO, all units alarm. Interconnected units may provide earlier warning than stand-alone units since all units alarm when one detects smoke or CO.

Smoke/CO Alarms may not be heard. Though the alarm horn in this unit meets or exceeds current Standards, it may not be heard if: 1) the unit is located outside a closed or partially closed door, 2) residents recently consumed alcohol or drugs, 3) the alarm is drowned out by noise from stereo, TV, traffic, air conditioner or other appliances, 4) residents are hearing impaired or sound sleepers. Special purpose units, like those with visual and audible alarms, etc. should be installed for hearing impaired residents.

The Alarm may not have time to alarm before the fire itself causes damage, injury, or death, since smoke from some fires may not reach the unit immediately. Examples of this include persons smoking in bed, children playing with matches, or fires caused by violent explosions resulting from escaping gas.

Smoke/CO Alarms are not foolproof. Like any electronic device, Smoke/CO Alarms are made of components that can wear out or fail at any time. You must test the unit weekly to ensure your continued protection. Smoke/CO Alarms cannot prevent or extinguish fires. They are not a substitute for property or life insurance.

Smoke/CO Alarms have a limited life. The unit should be replaced immediately if it is not operating properly. You should always replace a Smoke/CO Alarm after 5 years from date of purchase. Write the purchase date on the user's manual and keep in a safe place for future reference.

TROUBLESHOOTING GUIDE

If the Alarm...	Problem...	You should...
Horn "chirps" about once per minute.	Low battery warning.	Install two new AA batteries*.
Horn does three rapid "chirps" every minute; LED has 3 rapid flashes with "chirps".	Device is not working properly, and needs to be replaced.	Units under guarantee should be returned to manufacturer for replacement. See "Limited Guarantee" for details.
Carbon Monoxide Alarm ONLY:		
CO Alarm goes back into alarm 4 minutes after you press the Test/Silence button.	CO levels indicate a potentially dangerous situation.	IF YOU ARE FEELING SYMPTOMS OF CO POISONING, EVACUATE your home and call 999 or the Fire Brigade. If not, press the Test/Silence button again and keep ventilating your home.
CO Alarm sounds frequently even though no high levels of CO are revealed in an investigation.	The CO Alarm may be improperly located. Refer to "Where to Install This Alarm" for details.	Relocate your Alarm. If frequent alarms continue, have home rechecked for potential CO problems. You may be experiencing an intermittent CO problem.
Smoke Alarm ONLY:		
Smoke Alarm sounds when no smoke is visible.	Unwanted alarm may be caused by non-emergency source like cooking smoke.	Clean the Alarm's cover with a soft, clean cloth. If frequent unwanted alarms continue, relocate your Alarm. Alarm may be too close to a kitchen, cooking appliance, or steamy bathroom.

*For a list of acceptable replacement batteries, see "Regular Maintenance."

LIMITED GUARANTEE

BRK Brands Europe Ltd., ("the Company"), guarantees its enclosed Smoke/Carbon Monoxide Alarm – but not the battery – to be free from defects in materials and workmanship under normal use and service for a period of five years from the date of purchase.

BRK Brands Europe Ltd. makes no other express guarantee for this unit. No agent, representative, dealer or employee of the Company has the authority to increase or alter the obligations or limitations of the Guarantee.

The Company's obligation of this Guarantee shall be limited to the repair or replacement of any part of the alarm which is found to be defective in materials or workmanship under normal use and service during the guarantee period commencing with date of purchase. The Company shall not be obligated to repair or replace alarms which are found to be in need of repair because of damage, unreasonable use, modifications or alterations occurring after the date of purchase.

How to Obtain Guarantee Service

Service: If service is required return the product to your retailer.

Battery: BRK Brands Europe Ltd. make no guarantee, express or implied, written or oral, including that of merchantability or fitness for any particular purpose with respect to battery.

This product, the batteries and other accessories must not be disposed of as unsorted municipal waste and must be collected separately at the end of the products life.

Contact your local authority for information about collection points in your area.

For your records, please record:

Date Purchased: _____

Where Purchased: _____

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Printed in Mexico M09-0044-003 **Q** 01/08

ABOUT SMOKE ALARMS

Battery (DC) powered Smoke Alarms: Provide protection even when electricity fails, provided the batteries are fresh and correctly installed. Units are easy to install, and do not require professional installation. May also be interconnected, **model dependent**, so if one unit senses smoke, all units alarm.

Mains (AC) powered Smoke Alarms: Can be interconnected so if one unit senses smoke, all units alarm. They do not operate if electricity fails. **Mains (AC) with battery (DC) back-up:** will operate if electricity fails, provided the batteries are fresh and correctly installed. Mains (AC) powered and mains powered with battery back-up (AC/DC) units must be installed by a qualified electrician.

All these Smoke Alarms are designed to provide early warning of fires if located, installed and cared for as described in the user's manual, and if smoke reaches them. If you are unsure which type of Smoke Alarm to install, refer to British Standard (BS) 5839 Part 6 and 5588 Part 1.
BSI, 389 Chiswick High Road, London, W4 4AL, UK.
Local building regulations may also require specific units in new construction or in different areas of the home.

SPECIAL COMPLIANCE CONSIDERATIONS

⚠WARNING!

This Smoke Alarm alone is not a suitable substitute for complete fire detection systems in places housing many people—like blocks of flats (communal escape routes), hotels, motels, hostels, inns, hospitals, long-term health care facilities, nursing homes, day care facilities, boarding houses or sheltered housing of any kind—even if they were once single-family residences. It is not a suitable substitute for complete fire detection systems in warehouses, industrial facilities, commercial buildings, and special-purpose non-residential buildings which require special fire detection and alarm systems. Depending on the building regulations in your area, this Smoke Alarm may be used to provide additional protection in these facilities.

The following information applies to all four building types below:

In new construction, most building regulations require the use of mains (AC) or mains powered with integral standby supply (AC/DC) Smoke Alarms only. In existing construction, mains powered (AC), mains powered with integral standby supply (AC/DC), or battery (DC) powered Smoke Alarms can be used as specified by local building regulations. Refer to British Standard BS 5839 Part 6 and BS 5588 Part 1, local buildings regulations, or consult your Fire Brigade for detailed fire protection requirements in buildings not defined as "dwellings."

1. Single-Family Residence:

Single family home. It is recommended Smoke Alarms be installed in all circulation spaces (normally hallways and staircases) that form part of escape routes, on every level, in all rooms and areas that present a high fire risk and between the sleeping area(s) and the most likely sources of fire (living room and kitchen).

2. Multi-Family or Mixed Occupant Residence:

Blocks of flats. This Smoke Alarm is suitable for use in individual flats, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/ regulations.

3. Institutions:

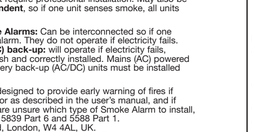
Hospitals, day care facilities, long-term health care facilities. This Smoke Alarm may be suitable for use in individual patient sleeping/resident rooms, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/regulations.

4. Hotels and Motels:

Also hostels, inns, boarding houses and sheltered housing. This Smoke Alarm may be suitable for use inside individual sleeping/resident rooms, provided a primary fire detection system already exists to meet fire detection requirements in common areas like foyers, hallways, corridors, or porches. Using this Smoke Alarm in common areas may not provide sufficient warning to all residents or meet local fire protection by-laws/regulations.

Features:

- Separate sensors to detect smoke and CO; the two alarm systems work independently
- Separate audible signals to indicate alarm levels of smoke or CO
- Powered by two "AA" batteries
- Side access drawer for easy battery replacement



IMPORTANT!
PLEASE READ CAREFULLY AND SAVE.
This user's manual contains important information about your Combination Carbon Monoxide & Smoke Alarm's operation. If you are installing this alarm for use by others, you must leave this manual—or a copy of it—with the end user.

M09-0044-003 **Q** 01/08 Printed in Mexico

SIGNALING UL LISTED

Model SCO5

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All First Alert® Smoke Alarms conform to regulatory requirements, including UL217 and are designed to detect particles of combustion. Smoke particles of varying number and size are produced in all fires.

Ionization technology is generally more sensitive than photoelectric technology at detecting small particles, which tend to be produced in greater amounts by flaming fires, which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket, or a grease fire in the kitchen.

Photoelectric technology is generally more sensitive than ionization technology at detecting large particles, which tend to be produced in greater amounts by smoldering fires, which may smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding.

INTRODUCTION

FIRE SAFETY TIPS

Follow safety rules and prevent hazardous situations: 1) Use smoking materials properly. Never smoke in bed. 2) Keep matches or lighters away from children; 3) Store flammable materials in proper containers; 4) Keep electrical appliances in good condition and don't overload mains circuits; 5) Keep cookers, barbecue grills, fireplaces and chimneys grease- and debris-free; 6) Never leave anything heating on the cooker unattended; 7) Keep portable heaters and open flames, like candles, away from flammable materials; 8) Don't let rubbish accumulate.

Keep alarms clean, and test them weekly. Replace alarms immediately if they are not working properly. Smoke Alarms that do not work cannot alert you to a fire. Keep at least one working fire extinguisher on every floor, and an additional one in the kitchen, along with a fire blanket. Have fire escape ladders or other reliable means of escape from an upper floor in case stairs are blocked.

BASIC SAFETY INFORMATION

IMPORTANT!

- **Dangers, Warnings, and Cautions alert you to important operating instructions or to potentially hazardous situations. Pay special attention to these items.**
- **This Smoke/CO Alarm is approved for use in single-family residences. It is NOT designed for boat or caravan use.**

⚠CAUTION!

- **This combination Smoke/Carbon Monoxide Alarm has two separate alarms. The CO Alarm is not designed to detect fire or any other gas. It will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas. The Smoke Alarm will only indicate the presence of smoke that reaches the sensor. The Smoke Alarm is not designed to sense gas, heat or flames.**

⚠WARNING!

- **This Smoke/CO Alarm cannot operate without working batteries. Removing the batteries for any reason, or failing to replace the batteries at the end of their service life, removes your protection.**
- **NEVER ignore any alarm. See "If Your Smoke/CO Alarm Sounds" for more information on how to respond to an alarm. Failure to respond can result in injury or death.**
- **The Silence Feature is for your convenience only and will not correct a Smoke/CO problem. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.**
- **Test this Smoke/CO Alarm once a week. If the Alarm ever fails to test correctly, have it replaced immediately! If the Alarm is not working properly, it cannot alert you to a problem.**
- **This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure CO levels in compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards. Individuals with medical conditions that may make them more sensitive to carbon monoxide may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm. For additional information on carbon monoxide and your medical condition contact your physician.**
- **Do not install the Alarm where it may be exposed to dripping water or could be splashed.**

INSTALLATION

WHERE TO INSTALL THIS ALARM

Installing Smoke Alarms in Single-Family Residences

British Standards (BSI) recommend one Smoke Alarm on every floor, in every living area, and in every bedroom or sleeping area. See "British Standards (BSI) Recommendations" for details. For additional coverage, it is recommended that you also install a Smoke Alarm in halls, storage areas, finished attics and roof voids. Make sure no door or other obstruction could keep smoke from reaching the Smoke Alarms or minimize the sound level produced from ensuring the occupants from hearing the alarm signal.

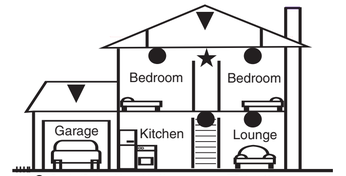
More specifically, install combination Smoke/CO Alarms:

- Where temperatures normally remain between 4˚C (40˚F) and 38˚C (100˚F).
- On every level of your home, including finished attics.
- Inside every bedroom, especially if people sleep with doors closed.
- In the hall near every sleeping area. If your home has multiple sleeping areas, install a unit in each. If a hall is over 7.5 metres (25 feet) long, install an alarm at each end.
- At the top of the first-to-second floor and subsequent floor stairways, and at the bottom of the ground floor stairway.

IMPORTANT!

Specific requirements for Smoke/CO Alarm installation may vary from region to region. Check with your local Fire Brigade and Building Control for current requirements in your area.

Recommended Placement



- When installing on the wall, the top edge of Smoke/CO Alarms should be placed between 102 mm (4 inches) and 305 mm (12 inches) from the wall/ceiling line.
- When installing on the ceiling, place the alarm as close to the center as possible.
- In either case, install at least 102 mm (4 inches) from where the wall and ceiling meet. See "Avoiding Dead Air Spaces" for more information.

NOTE: For any location, make sure no door or other obstruction could keep carbon monoxide or smoke from reaching the Alarm.

WHERE THIS ALARM SHOULD NOT BE INSTALLED

Do NOT locate this Smoke/CO Alarm:

- In garages, kitchens, boiler rooms, crawl spaces and unfinished attics. Avoid extremely dusty, dirty or greasy areas.
- Where combustion particles are produced. Combustion particles form when something burns. Areas to avoid include poorly ventilated kitchens, garages, and boiler rooms. Keep units at least 6 metres (20 feet) from the sources of combustion particles (cooker, boiler, water heater, space heater) if possible. In areas where a 6-metre (20-foot) distance is not possible – in modular, mobile, or smaller homes, for example – it is recommended the Smoke/CO Alarm be placed as far from these fuel-burning sources as possible. The placement recommendations are intended to keep these Alarms at a reasonable distance from a fuel-burning source, and thus reduce "unwanted" alarms. Unwanted alarms can occur if a Smoke/CO Alarm is placed directly next to a fuel-burning source. Ventilate these areas as much as possible.
- Within 1.5 metres (5 feet) of any cooking appliance. In air streams near kitchens, Air currents can draw cooking smoke into the smoke sensor and cause unwanted alarms.
- In extremely humid areas. This Alarm should be at least 3 metres (10 feet) from a shower, sauna, humidifier, vaporizer, dishwasher, laundry room, utility room, or other source of high humidity.
- In direct sunlight.
- In turbulent air, like near ceiling fans or open windows. Blowing air may prevent CO or smoke from reaching the sensors.
- In areas where temperature is colder than 4˚C (40˚F) or hotter than 38˚C (100˚F). These areas include non-airconditioned crawl spaces, unfinished attics, uninsulated or poorly insulated ceilings, porches, and garages.
- In insect infested areas. Insects can clog the openings to the sensing chamber.
- Less than 305 mm (12 inches) away from fluorescent lights. Electrical "noise" can interfere with the sensor.
- In "dead air" spaces. See "Avoiding Dead Air Spaces".

AVOIDING DEAD AIR SPACES

"Dead air" spaces may prevent smoke from reaching the Smoke/CO Alarm. To avoid dead air spaces, follow installation recommendations below.

On ceilings, install Smoke/CO Alarms as close to the center of the ceiling as possible. If this is not possible, install the Smoke/CO Alarm at least 102 mm (4 inches) from the wall or corner.

For wall mounting (if allowed by building codes), the top edge of Smoke/CO Alarms should be placed between 150 mm (6 inches) and 305 mm (12 inches) from the wall/ceiling line, below typical "dead air" spaces.

On a peaked, gabled, or cathedral ceiling, install first Smoke/CO Alarm within 0.9 metres (3 feet) of the peak of the ceiling, measured horizontally. Additional Smoke/CO Alarms may be required depending on the length, angle, etc. of the ceiling's slope. Refer to BS 5839 Part 6, 5588 Part 1 and local building regulations for details on requirements for sloped or peaked ceilings.

OPTIONAL LOCKING FEATURES

The optional locking features are designed to discourage unauthorized removal of the batteries or Alarm. It is not necessary to activate the locks in single-family households where unauthorized battery or Alarm removal is not a concern.

This Smoke/CO Alarm has two separate locking features: one to lock the battery compartment, and the other to lock the Smoke/CO Alarm to the mounting bracket. You can choose to use either feature independently, or use them both.

Tools you will need: • **Needle-nose pliers or utility knife** • **Standard flathead screwdriver.**

Both locking features use locking pins, which are molded into the mounting bracket. Depending on which locking features you use, remove one or both pins from the mounting bracket using needle-nose pliers or a utility knife.

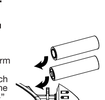
IMPORTANT!

To permanently remove either locking pin, insert a flathead screwdriver between the locking pin and the lock, and pry the pin out of the lock.

TO LOCK THE BATTERY COMPARTMENT

Do not lock the battery compartment until you activate the battery and test the Smoke/CO Alarm.

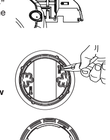
1. **Install the batteries** before attaching the Alarm to the bracket. Insert the two (2) AA batteries (included) into the battery compartment. Match the terminals on the end of the battery with the terminals on the unit. Match "+" to "+" and "-" to "-." If the batteries are not fully inserted, the unit cannot receive battery power.
2. Push and hold Test/Silence button until the alarm sounds.



IMPORTANT!

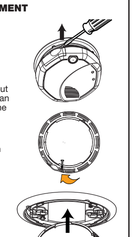
If the unit does not alarm during testing, DO NOT lock the battery compartment! Install new batteries and test again. If the unit still does not alarm, replace it immediately.

3. Using needle-nose pliers or a utility knife, detach one locking pin from the mounting bracket.
4. Push the locking pin through the hole near the battery door latch on the back of the Smoke/CO Alarm.



TO UNLOCK THE BATTERY COMPARTMENT

1. Remove the Smoke/CO Alarm from the mounting bracket. If the unit is locked to the bracket, see the section "To Unlock the Mounting Bracket."
2. Insert a flathead screwdriver under the head of the locking pin, and gently pry it out of the battery compartment lock. (If you plan to relock the battery compartment, save the locking pin.)
3. To relock the battery compartment, close the battery door and reinsert locking pin in lock.
4. Reattach the Smoke/CO Alarm to the mounting bracket.

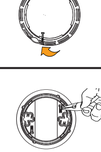


IMPORTANT!

When replacing the batteries, always test the Smoke/CO Alarm before re-locking the battery compartment.

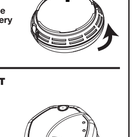
TO LOCK THE MOUNTING BRACKET

1. Using needle-nose pliers or a utility knife, detach one locking pin from the mounting bracket.
2. Insert the locking pin through the hole on the back of the Smoke/CO Alarm as shown in the diagram.
3. When you attach the Smoke/CO Alarm to the mounting bracket, the locking pin's head will fit into a notch on the bracket.



TO UNLOCK THE MOUNTING BRACKET

1. Insert a flathead screwdriver into the rectangular cut-out on the mounting bracket nearest to the locking pin.
2. Pry the Smoke/CO Alarm away from the bracket by pushing up on the screwdriver and turning the Smoke/CO Alarm counterclockwise (left) at the same time.



WEEKLY TESTING

⚠WARNING!

- **NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to the unit or to your home. The built-in test switch accurately tests the unit's operation.**
- **DO NOT stand close to the Alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When testing, step away when horn starts sounding.**

⚠CAUTION!

It is important to test this unit every week to make sure it is working properly. Using the test button is the recommended way to test this Smoke/CO Alarm.

Push and hold the Test/Silence button 3-5 seconds until unit starts to alarm.

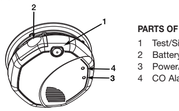
- The Alarm horn will sound 3 beeps, pause, 3 beeps. The Power/Smoke LED flashes Red and the CO LED will be Off.
- Next the horn will sound 4 beeps, pause, 4 beeps. The Power/Smoke LED will be Off and the CO LED flashes Red.

If the unit does not alarm, make sure the batteries are correctly installed, and test again. If the unit still does not alarm, replace it immediately.

HOW TO INSTALL THIS ALARM

IMPORTANT!

This combination Smoke/CO Alarm was designed to be mounted on the ceiling or wall. It is not a tabletop device. You must install this device on the ceiling or wall as outlined below. Read "Where To Install This Alarm" before starting.



PARTS OF THIS SMOKE/CO ALARM

1 Test/Silence Button
2 Battery Compartment
3 Power/Smoke Alarm LED
4 CO Alarm LED

Tools you will need: pencil, drill with 5mm (3/16") drill bit, flathead screwdriver, hammer.

⚠CAUTION!

- **Do not connect this unit to any other alarm or auxiliary device. It is a single-station unit that cannot be linked to other devices. Connecting anything else to this unit may prevent it from working properly.**
- **Do not install this unit over mains cables or holes into the ceiling. Air currents will prevent smoke from reaching the sensing chamber and prevent the unit from alarming. Only AC powered units are intended for installation over mains cables.**

IMPORTANT!

If you want to lock the battery compartment, or lock the Smoke/CO Alarm to the mounting bracket, please read the "Optional Locking Features" section.

1. Hold base firmly and twist the mounting bracket counterclockwise (left) to separate it from the unit.
2. Hold the mounting bracket against the ceiling (or wall) so the vertical mounting slot is aligned in the 12 o'clock position and trace around the inside of the mounting slots (vertical and horizontal mounting).
3. Put the unit where it won't get covered with dust when you drill the mounting holes.
4. Using a 5 mm (3/16-inch) drill bit, drill a hole through each pencil mark.
5. Insert the plastic screw anchors into the holes. Tap the screw anchors gently with a hammer, if necessary, until they are flush with the ceiling or wall.
6. Line the mounting bracket up over the plastic screw anchors.
7. Screw the mounting bracket to the ceiling or wall through the mounting slots using the two screws provided.
8. Before attaching the Alarm to the bracket, insert the two (2) AA batteries (included) into the battery compartment. Match the terminals on the end of the battery with the terminals on the unit. Match "+" to "+" and "-" to "-." If the batteries are not fully inserted, the unit cannot receive battery power.